

**Forest Service Manual
National Headquarters - Washington Office
Washington, DC**

**Forest Service Manual 2000 – National Forest Resource Management
Chapter 2070 - Vegetation Ecology**

Amendment: 2000-2008-1

Effective date: February 13, 2008

Duration: This amendment is effective until superseded or removed.

Approved by: Anne Zimmerman, Acting Associate Deputy Chief, NFS

Date approved: January 14, 2008

Responsible Staff:

Last Change: 2000-95-5 to 2080

Superseded Document(s): 2070, Amendment 2000-90-1, June 01, 1990

Digest: Following is an explanation of the changes throughout the directive by section.

2070: Changes the name of the chapter from "Biological Diversity" to "Vegetation Ecology," and adds new direction on the use, growth, development, and storage of native plant materials.

Forest Service Manual 2000 – National Forest Resource Management
Chapter 2070 - Vegetation Ecology
Amendment: 2000-2008-1
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Table of Contents

2070.1 – Authority.....	3
2070.11 – Laws.....	3
2070.12 – Regulations	6
2070.13 – Executive Orders	6
2070.2 – Objectives	6
2070.3 – Policy.....	7
2070.4 – Responsibility	8
2070.41 – Chief	8
2070.42 – Deputy Chief for National Forest System	9
2070.43 – Director of Range Management, Washington Office	9
2070.44 – Regional Forester	10
2070.45 – Forest and Grassland Supervisors	10
2070.46 – District Ranger	11
2070.5 – Definitions.....	11

2070.1 – Authority

Authority to manage National Forest System (NFS) lands, including the use of native and non-native plant materials, is derived from laws enacted by Congress that authorize the Secretary of Agriculture to administer NFS lands and resources and to issue necessary regulations. Many of these authorities have subsequently been delegated from the Secretary to the Chief of the Forest Service.

2070.11 – Laws

The principal statutes governing the management and use of native and non-native plant materials on NFS lands and other lands under Forest Service administration include, but are not limited to, the following statutes. Except where specifically stated, these statutes apply to all NFS lands and resources.

1. Organic Administration Act of 1897 (16 U.S.C. §§473 *et seq.*). Authorizes the Secretary of Agriculture to establish regulations governing the occupancy and use of national forests and to protect national forests from destruction.
2. Knutson-Vandenberg Act of June 9, 1930 (16 U.S.C. 576, 576a-576b). Section 3 specifies that the Secretary may require any purchaser of national forest timber to make deposits of money in addition to the payments for the timber, to cover the cost to the United States of planting, sowing with tree seeds, and cutting, destroying or otherwise removing undesirable trees or other growth, on the national forest land cut over by the purchaser, in order to improve the future stand of timber, or protecting and improving the future productivity of the renewable resources of the forest land on such sale area.
3. Bankhead-Jones Farm Tenant Act of 1937 (7 U.S.C. §§1010 *et seq.*). Title III authorizes the Secretary to develop a program of land conservation and land utilization in order to correct maladjustments in land use. Applies only to national grasslands and land utilization projects.
4. Anderson-Mansfield Reforestation and Revegetation Joint Resolution Act of October 11, 1949 (16 U.S.C. 581j (note), 581j, 581k). Requires the agency to accelerate and provide a continuing basis for the needed reforestation and revegetation of national forest lands and other lands under Forest Service administration or control.
5. Granger-Thye Act of 1950 (16 U.S.C. §§580h). Authorizes the Secretary to use a portion of grazing fees for range improvement projects on NFS lands. Specific projects mentioned are artificial revegetation, including the collection or purchase of necessary seed and eradication of poisonous plants and noxious weeds, in order to protect or improve the future productivity of the range. Section 11 of the act authorizes the use of funds for rangeland improvement projects outside of NFS lands under certain circumstances (FSM 2204, ex. 01).

6. Sikes Act (Fish and Wildlife Conservation) of September 15, 1960 (16 U.S.C. 670g-670l, 670o). Section 201 directs the Secretary of Agriculture to plan, develop, maintain, coordinate, and implement programs for the conservation and rehabilitation of wildlife, fish and game species, including specific habitat improvement projects, on public land under their jurisdiction.

7. Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. §§528 *et seq.*). Authorizes the Secretary to: administer NFS lands for outdoor recreation, range, timber, watershed and wildlife and fish purposes; to develop the surface renewable resources for multiple use and sustained yield of several products and services to be obtained from these lands, without impairment of the productivity of the land; and to cooperate with interested State and local governmental agencies and others in the development and management of the national forests.

8. Wilderness Act of 1964 (16 U.S.C. §§1131 *et seq.*). Authorizes the Secretary to administer certain congressionally designated NFS lands as wilderness. Directs the protection and preservation of these wilderness areas in their natural state, primarily affected by nature and not man's actions.

9. The Endangered Species Act (ESA) of 1973 (16 U.S.C. §§1531 *et seq.*). Provides for the conservation of threatened and endangered species of plants and animals. Section 7 requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of the species' critical habitat. This provision also requires Federal agencies to consult with the U.S. Fish and Wildlife Service (for non-marine species) or the National Oceanic and Atmospheric Administration's National Marine Fisheries Service whenever an agency action is likely to affect a threatened or endangered species or its critical habitat. Section 9 prohibits the "take" of a threatened or endangered fish or wildlife species and the removal and reduction to possession of endangered plants from lands under federal jurisdiction.

10. Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 as amended by the National Forest Management Act (NFMA) of 1976, section 6 codified at 16 U.S.C. §§1600 (g) WHICH PROVIDES THAT THE Secretary shall "promulgate regulations ... (3) specifying guidelines for land management plans ... which ... (B) provides for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives, and within the multiple-use objectives of a land management plan ... provide, where appropriate, to the degree practicable, for steps to be taken to preserve the diversity of tree species similar to that existing in the region controlled by the plan.

Forest Service Manual 2000 – National Forest Resource Management
Chapter 2070 - Vegetation Ecology
Amendment: 2000-2008-1
Effective date: February 13, 2008

11. Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201, 1201 (note), 1236, 1272, 1305). Section 515 directs the establishment on the mined areas, and all other lands affected, a diverse, effective and permanent vegetative cover of the same seasonal variety native to the area of land to be affected and capable of self-regeneration and plant succession at least equal in extent of cover to the natural vegetation on the area; except that introduced species may be used in the revegetation process where desirable and necessary to achieve the approved post mining land use plan.
12. Cooperative Forestry Assistance Act of 1978 (16 U.S.C. 2101 (note), 2101-2103, 2103a, 2103b, 2104-2105). Section 3 (16 U.S.C. 2102) details the assistance that may be given to State foresters or equivalent State officials and State extension directors, in the form of financial, technical, educational and related assistance.
13. The North American Wetland Conservation Act 1989 (16 U.S.C. 4401 (note), 4401-4413, 16 U.S.C. 669b (note)). Section 9 (U.S.C. 4408) directs Federal agencies to cooperate with the Director of the U.S. Fish and Wildlife Service to restore, protect, and enhance the wetland ecosystems and other habitats for migratory birds, fish and wildlife within the lands and waters of each agency to the extent consistent with the mission of such agency and existing statutory authorities.
14. Section 323 of Public Law 108-7, the Consolidated Appropriations resolution (16 U.S.C. 2104 note). Establishes new authorities allowing the Forest Service to enter into stewardship contracts with public or private entities or persons to perform services to achieve land management goals for NFS lands that meet local and rural community needs.
15. Healthy Forests Restoration Act of 2003 (H.R. 1904), (16 U.S.C. 6501-6502, 6511-18, 6541-42, 6571-78). Provides improved statutory processes for hazardous fuel reduction projects on certain types of at-risk NFS and Bureau of Land Management lands and also provides other authorities and direction to help reduce hazardous fuel and restore healthy forest and rangeland conditions on lands of all ownerships.
16. The National Historic Preservation Act of 1966 (16 U.S.C. §§470 *et seq.*). Requires agency heads to assume responsibility for the preservation of historic properties owned or controlled by the agency and to develop a preservation program for the identification, evaluation and nomination of historic properties to the National Register. Requires agency heads to evaluate the effects of an undertaking on property that is included or eligible for inclusion in the National Register and to afford the Advisory Council a reasonable opportunity to comment on the undertaking. Defines undertaking to include permitting activities or Federal financial assistance under the jurisdiction of an agency.

2070.12 – Regulations

The authority to manage NFS lands is delegated from the Secretary of Agriculture to the Under Secretary for Natural Resources and Environment (NRE) at 7 CFR §2.20. This authority has been delegated in turn from NRE to the Chief of the Forest Service at 7 CFR §2.60.

Regulations governing the management of NFS lands and other lands under Forest Service administration are found in the Code of Federal Regulations under Title 36, Chapter II, Parts 200-299; to implement the statutory requirement (16 U.S.C. 1604(g)(3)(B) to provide for diversity of plant and animal communities.

2070.13 – Executive Orders

1. Executive Order 13112 Invasive Species 64 Fed. Reg. 6183 (February 8, 1999). Provides for restoration of native species and habitat conditions in ecosystems that have been invaded by non-native invasive species.
2. Executive Order 13352 Facilitation of Cooperative Conservation 69 Fed. Reg. 52989 (August 30, 2004). Directs the Departments of the Interior, Agriculture, Commerce, and Defense and the Environmental Protection Agency to implement laws relating to the environmental and natural resources in a manner that promotes cooperative conservation, with an emphasis on appropriate inclusion of local participation in Federal decision making, in accordance with their respective agency missions, policies and regulations.

2070.2 – Objectives

Objectives for the use of native plant materials in revegetation, rehabilitation, and restoration of both aquatic and terrestrial ecosystems are to:

1. Maintain, restore or rehabilitate native ecosystems so that they are self-sustaining, resistant to invasion by non-native invasive species and/or provide habitat for a broad range of species including, threatened, endangered, and rare species.
2. Maintain adequate protection for soil and water resources, through timely and effective revegetation of disturbed sites that could not be restored naturally.
3. Promote the use of native plant materials for the revegetation, rehabilitation and restoration of native ecosystems.
4. Promote the appropriate use and availability of both native and non-native plant materials.
5. Cooperate with other federal agencies, state agencies and local governments, tribes, academic institutions and the private sector to increase the knowledge and availability of native plant materials, including developing sources of genetically appropriate plant materials.

Forest Service Manual 2000 – National Forest Resource Management
Chapter 2070 - Vegetation Ecology
Amendment: 2000-2008-1
Effective date: February 13, 2008

6. Increase and disseminate information which will guide the selection, use, and availability of genetically appropriate plant materials.
7. Promote the study, planning, and implementation of actions which will maintain, restore and rehabilitate native ecosystems on NFS lands and other lands administered by the Forest Service and in the United States.

2070.3 – Policy

Policy for selection, use, and storage of native and non-native plant materials that are used in the revegetation, restoration and rehabilitation of National Forest System lands are as follows:

1. Ensure genetically appropriate native plant materials are given primary consideration.
2. Restrict use of persistent, non-native, non-invasive plant materials to only those situations when timely reestablishment of a native plant community either through natural regeneration or with the use of native plant materials is not likely to occur. Examples include but are not limited to the following:
 - a. When emergency conditions exist where it becomes necessary to protect basic resource values (such as, soil stability, water quality, and prevention of establishment of invasive species).
 - b. When native plant materials are not available and/or are not economically feasible.
 - c. In permanently, highly altered plant communities, such as road cuts, permanent and temporary wildlife openings, log landings, skid trails, temporary roads that have been closed and are used for linear wildlife openings and sites dominated by non-native, invasive species.
 - d. In designated historical sites where maintenance of historical vegetation communities, including agricultural crops, is needed to maintain historical integrity (FSM 2630).
3. Select non-native plants as interim, non-persistent plant materials provided they will not hybridize with local species, will not permanently displace native species or offer serious long-term competition to the recovery of endemic plants, and are designed to aid in the re-establishment of native plant communities.
4. Base determination and selection of genetically appropriate plant materials on the site characteristics and ecological setting, using the best available information and plant materials.

Forest Service Manual 2000 – National Forest Resource Management
Chapter 2070 - Vegetation Ecology
Amendment: 2000-2008-1
Effective date: February 13, 2008

5. Ensure that development, review and/or approval of revegetation, rehabilitation and restoration prescriptions, including species selection, genetic heritage, growth stage and any needed site preparation, is done by a plant materials specialist who is knowledgeable and trained or certified in the plant community type where the revegetation will occur.
6. Do not use noxious weeds for revegetation, rehabilitation and restoration projects.
7. Cooperate and coordinate within the Forest Service, with other federal agencies, organizations and private industry in the development of native plant materials and supplies.
8. Anticipate plant material needs for emergency and planned revegetation. Develop core plant lists, planting guidelines, plant material sources and seed caches and seed storage facilities.

Specific direction for commercial timber species and special forest products is in FSM 2470.

2070.4 – Responsibility

The Chief delegates the authority and responsibility for the overall administration of the native plant materials program on NFS lands and other lands administered by the Forest Service in conformance with applicable Federal law, regulation, and policy to the Deputy Chief, National Forest System (NFS). This delegated authority is reserved to the Deputy Chief, NFS, except for the delegations to the Regional Foresters, Forest/Grassland Supervisors, and/or District Rangers.

2070.41 – Chief

1. Retains overall authority over and responsibility for establishing national policy for restoration of disturbed sites and degraded ecosystems.
2. Establishes national policy for appropriate use of native and non-native plant materials.
3. Promotes cooperation and coordination between federal agencies, state, tribal and local governments, the seed industry, the nursery industry, partners and the public for the development and supply of native and non-native plant materials.
4. Provides coordination across deputy areas to ensure the use of native plant materials are integrated into all Forest Service program areas.

2070.42 – Deputy Chief for National Forest System

Deputy Chief, NFS is delegated the authority and responsibility for management and restoration of NFS lands in conformance with applicable Federal law, regulation and policy. All authorities are reserved to the Deputy Chief, except for the delegations to the Regional Foresters (RF), Forest and Grassland Supervisors and District Rangers set forth in the following sections.

1. Establishes national policy for selection of appropriate plant materials for use on NFS lands.
2. Delegates the authority to use native and non-native plant materials on NFS lands consistent with national policy.
3. Establishes national policy to ensure that the appropriate use of plant materials, native and non-native, are integrated into all program areas on NFS lands.
4. Establishes national policy for evaluation and monitoring of plant materials on NFS lands.
5. Oversees and coordinates training and certification of plant material specialists.

2070.43 – Director of Range Management, Washington Office

1. Represents the Chief on national committees and ad hoc groups concerned with the development and use of native plant materials for revegetation, restoration and rehabilitation.
2. Maintains contact with Forest Service Research and Development, Agricultural Research Service and Natural Resources Conservation Service program managers, to review current native plant materials research programs, identify additional research needs, set priorities, and help coordinate research efforts for the development and use of native plant materials for revegetation, restoration, and rehabilitation.
3. Coordinates with other Federal agencies in the development and use of native plant materials for revegetation, restoration and rehabilitation.
4. Provides national program leadership, establishes national policy direction and conduct oversight for implementing the native plant materials program through the Forest Service budget process, national program directives, and input to the Resources Planning Act (RPA) program.
5. Determines national native plant materials information needs.
6. Monitors and reports on regional compliance with national policy.

7. Establishes standards for native plant materials training, certification, and continuing education.

2070.44 – Regional Forester

1. Establishes regional policy for use of native plant materials consistent with national policy.
2. Establishes direction and policy to ensure native plants materials are integrated into regional programs and Land Management Plans
3. Appoints a regional native plant materials program coordinator.
4. Coordinates with Forest Service nurseries, Natural Resources Conservation Service Plant Materials Centers, other federal agencies, state, tribes and private industry to ensure a supply of genetically appropriate plant materials.
5. Delegates the authority to use genetically appropriate native and non-native plant materials.
6. Anticipates plant material needs for emergency and other restoration activities by developing seeding guidelines and lists of important, core native species based on ecological types and available seed sources.

2070.45 – Forest and Grassland Supervisors

1. Implements forest and grassland programs consistent with national and regional policy for native plant materials.
2. Establishes management direction and policy to ensure native plants materials are integrated into forest and grassland programs and are also included in the Land Management Plan.
3. Appoint a forest or grassland native plant materials coordinator who will maintain expert level staffing capable of:
 - (a) meeting the objectives of the native plant material policy;
 - (b) developing related Forest policies, plans and processes;
 - (c) determining the adequacy of revegetation, rehabilitation and restoration project plans; and
 - (d) training other District personnel in the use of native plant materials.
4. Delegates the authority, if necessary, to use genetically appropriate native and non-native plant materials in revegetation projects.

5. Anticipates plant material needs for emergency and other restoration activities by developing seeding guidelines and a list of core native species based on ecological types and available seed sources.
6. Ensures all revegetation, rehabilitation and restoration projects are reviewed and approved by a trained or certified plant material specialist (FSM 2070.3(5)) and are consistent with national, regional, and forest/grassland policies for the use of native plant materials.
7. Coordinates with other Federal agencies, State and county governments, tribes and private industry to ensure a supply of genetically appropriate plant materials.

2070.46 – District Ranger

1. Ensures the use of all plant materials is consistent with national, regional, and forest policies.
2. Ensures native plant materials are incorporated into all district programs.
3. Reviews and approve revegetation, rehabilitation and restoration projects to ensure they are consistent with national, regional and forest policies for the use of native plant materials.

2070.5 – Definitions

Genetically appropriate plants. Plants adapted to target site conditions (for example, has good establishment, vigor, and reproductive capabilities); sufficiently, genetically diverse to respond and adapt to changing climates and environment conditions; unlikely to cause genetic contamination and undermine local adaptations, community interactions and function of resident native species within the ecosystem; not likely to become (not natural or inappropriate) invasive and displace other native species; and not likely to be a source of non-native invasive pathogens; likely to maintain critical connections with pollinators.

Invasive species. A species, including its seed, spores or other biological material, whose introduction does cause or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112).

Native plant species. A plant species which occurs naturally in a particular region, state, ecosystem and habitat without direct or indirect human actions.

Noxious weed. A plant species designated as a noxious weed by the Secretary of Agriculture pursuant to the Plant Protection Act of 2000 or by the responsible State official. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of serious insects or disease, and being non-native or new to or not common to the United States or parts thereof.

Plant materials. Seeds, spores, parts of plants or whole plants.

Plant Material Specialist. An individual certified nationally to develop and recommend revegetation, rehabilitation and restoration plans including site preparation, species and source selection, seeding/planting specifications and monitoring protocols.

Rehabilitation. Reparation of ecosystem processes, productivity and services based on functioning pre-existing or existing ecosystems, but allowing for adaptation of sites to specific current or future uses.

Restoration. Assisting the recovery of an ecosystem that has been degraded, damaged or destroyed including the re-establishment of the pre-existing biotic integrity in terms of species composition and community structure.

Revegetation. Re-establishment of plants on a site.